

## Claims

### WHAT IS CLAIMED IS:

1. A method comprising:  
sampling pixels in a first region within a tool impression in a digital image to determine a first distribution of a pixel property of the pixels in the first region;  
sampling pixels in a second region within the tool impression to determine a second distribution of the pixel property of the pixels in the second region; and  
editing at least one pixel within the tool impression based on the first and second distributions.
2. The method of claim 1 wherein the editing operation comprises:  
altering an editable pixel property of the at least one pixel.
3. The method of claim 1 wherein the editing operation comprises:  
altering an editable pixel property of the at least one pixel, the editable pixel property being different than the sampled pixel property.
4. The method of claim 1 wherein the first and second regions represent differently-located subdivisions of the tool impression.
5. The method of claim 1 wherein the editing operation comprises:  
editing the at least one pixel within the tool impression according to an edit profile based on the first and second distributions of the pixel property.

1           6. The method of claim 5 wherein the edit profile is determined by  
2 classifying the pixel properties as a function of pixel property differences.

3           7. The method of claim 5 wherein the edit profile is determined by  
4 classifying the pixel properties into at least two edit classes, each edit class  
5 applying a different degree of an editing effect.

6           8. The method of claim 5 wherein the edit profile is determined by  
7 classifying the pixel properties into at least two edit classes, each edit class  
8 applying a different editing effect.

9           9. The method of claim 5 wherein the edit profile is determined by  
10 classifying the pixel properties using blind signal separation.

11           10. The method of claim 5 wherein the edit profile is determined by  
12 categorizing the pixel properties using a classifier.

13           11. The method of claim 5 wherein the edit profile is determined by  
14 classifying the pixel properties using discriminant analysis.

15           12. The method of claim 5 wherein the edit profile is determined by  
16 classifying the pixel properties using mixture modeling.

17           13. The method of claim 5 wherein the edit profile is determined by  
18 classifying the pixel properties using Bayesian statistics.

19           14. The method of claim 5 wherein the edit profile is determined by  
20 classifying the pixel properties using thresholds.

1           15. The method of claim 5 wherein the edit profile is determined by  
2 classifying the pixel properties using property variance.

3           16. The method of claim 5 wherein the edit profile includes overlapping edit  
4 classes, each edit class representing a different degree of editing effect.

5           17. The method of claim 5 wherein the edit profile includes overlapping edit  
6 classes, each edit class representing a different type of editing effect.

7           18. The method of claim 5 wherein the edit profile designates an edit class  
8 specifying a replacement value of an editable pixel property of the at least one  
9 pixel.  
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11           19. The method of claim 5 wherein the edit profile designates an edit class  
12 specifying a transformation of an editable pixel property of the at least one pixel.  
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14           20. The method of claim 1 wherein the editing operation comprises:  
15 editing at least one pixel within each of the first region and the second  
16 region of the tool impression based on the first and second distributions of the  
17 pixel property.

18           21. The method of claim 1 wherein the pixel property is a composite pixel  
19 property.  
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1           22. The method of claim 1 wherein the pixel property is a multidimensional  
2 pixel property.

3           23. The method of claim 1 wherein the operation of sampling pixels in the  
4 first region comprises:

5                 determining a property value for each of a plurality of pixels within the first  
6 region.

7           24. The method of claim 1 further comprising:

8                 determining location and dimensions of the tool impression within the  
9 digital image.  
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11          25. The method of claim 1 further comprising:

12                 identifying the pixels in the first region within the tool impression of the  
13 digital image; and

14                 identifying the pixels in the second region within the tool impression of the  
15 digital image.  
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1           26. A computer program product encoding a computer program for  
2           executing on a computer system a computer process, the computer process  
3           comprising:

4           sampling pixels in a first region within a tool impression in a digital image  
5           to determine a first distribution of a pixel property of the pixels in the first region;

6           sampling pixels in a second region within the tool impression to determine  
7           a second distribution of the pixel property of the pixels in the second region; and

8           editing at least one pixel within the tool impression based on the first and  
9           second distributions.  
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11           27. The computer program product of claim 26 wherein the editing  
12           operation comprises:

13           altering an editable pixel property of the at least one pixel.

14           28. The computer program product of claim 26 wherein the editing  
15           operation comprises:

16           altering an editable pixel property of the at least one pixel, the editable  
17           pixel property being different than the sampled pixel property.  
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19           29. The computer program product of claim 26 wherein the first and second  
20           regions represent differently-located subdivisions of the tool impression.

21           30. The computer program product of claim 26 wherein the editing  
22           operation comprises:

23           editing the at least one pixel within the tool impression according to an edit  
24           profile based on the first and second distributions of the pixel property.  
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1           31. The computer program product of claim 30 wherein the edit profile is  
2 determined by classifying the pixel properties as a function of pixel property  
3 differences.

4           32. The computer program product of claim 30 wherein the edit profile is  
5 determined by classifying the pixel properties into at least two edit classes, each  
6 edit class applying a different degree of an editing effect.

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8           33. The computer program product of claim 30 wherein the edit profile is  
9 determined by classifying the pixel properties into at least two edit classes, each  
10 edit class applying a different editing effect.

11           34. The computer program product of claim 30 wherein the edit profile is  
12 determined by classifying the pixel properties using blind signal separation.

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14           35. The computer program product of claim 30 wherein the edit profile is  
15 determined by categorizing the pixel properties using a classifier.

16           36. The computer program product of claim 30 wherein the edit profile is  
17 determined by classifying the pixel properties using discriminant analysis.

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19           37. The computer program product of claim 30 wherein the edit profile is  
20 determined by classifying the pixel properties using mixture modeling.

21           38. The computer program product of claim 30 wherein the edit profile is  
22 determined by classifying the pixel properties using Bayesian statistics.

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24           39. The computer program product of claim 30 wherein the edit profile is  
25 determined by classifying the pixel properties using thresholds.

1           40. The computer program product of claim 30 wherein the edit profile is  
2 determined by classifying the pixel properties using property variance.

3           41. The computer program product of claim 30 wherein the edit profile  
4 includes overlapping edit classes, each edit class representing a different degree of  
5 editing effect.

6           42. The computer program product of claim 30 wherein the edit profile  
7 includes overlapping edit classes, each edit class representing a different type of  
8 editing effect.

9           43. The computer program product of claim 30 wherein the edit profile  
10 designates an edit class specifying a replacement value of an editable pixel  
11 property of the at least one pixel.

12           44. The computer program product of claim 30 wherein the edit profile  
13 designates an edit class specifying a transformation of an editable pixel property of  
14 the at least one pixel.

15           45. The computer program product of claim 26 wherein the editing  
16 operation comprises:

17           editing at least one pixel within each of the first region and the second  
18 region of the tool impression based on the first and second distributions of the  
19 pixel property.

20           46. The computer program product of claim 26 wherein the pixel property is  
21 a composite pixel property.

1           47. The computer program product of claim 26 wherein the pixel property is  
2 a multidimensional pixel property.

3           48. The computer program product of claim 26 wherein the operation of  
4 sampling pixels in the first region comprises:

5                 determining a property value for each of a plurality of pixels within the first  
6 region.

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8           49. The computer program product of claim 26 wherein the computer  
9 process further comprises:

10                 determining location and dimensions of the tool impression within the  
11 digital image.

12           50. The computer program product of claim 26 wherein the computer  
13 process further comprises:

14                 identifying the pixels in the first region within the tool impression of the  
15 digital image; and

16                 identifying the pixels in the second region within the tool impression of the  
17 digital image.



1           51. A system comprising:

2           a region sampling module that samples pixels in a first region within a tool  
3 impression in a digital image to determine a first distribution of a pixel property of  
4 the pixels in the first region and samples pixels in a second region within the tool  
5 impression to determine a second distribution of the pixel property of the pixels in  
6 the second region; and

7           an editing module that edits at least one pixel within the tool impression  
8 based on the first and second distributions.  
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